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ORIGINAL.

MOSQUITO WORK IN HAVANA.*

BY W. C. GORGAS, M. D.,
Major and Surgeon U. S. Army.

I take it for granted that the work of Lavarán and Ross has been generally accepted by almost all medical men as proving that the *Anopheles* mosquito is the only means of transmitting malaria, and that the work of Finlay and Reed has proved still more conclusively that the *Stegomyia* mosquito is the only agent in the transmission of yellow fever.

At the beginning of 1901 the whole attention of the Sanitary Department of Havana was centered upon ridding the city of yellow fever, and our measures were taken exclusively for this purpose. The results upon malaria have necessarily followed from the mosquito work.

*Read before the Sanitary Conference, Charleston, S. C. and Published also in N. Y. Medical Record, July 19th, 1902.

Our scheme at the beginning of 1901, so far as mosquitos were concerned, was, in the first place, to destroy all the *Stegomyia* mosquitos we possibly could, so as to leave as few as possible to transmit the yellow fever from patient to patient. In the next place, to prevent as much as possible those that escaped from biting yellow-fever patients, and thus transmitting the disease. And in the third place, when mosquitos had escaped our first two lines of defense, to have a third line and endeavor to kill all that had become infected.

With the idea of destroying all the mosquitos possible, we formed a brigade, naming it the *Stegomyia* brigade, which worked within the houses. The *Stegomyia* mosquito breeds principally in the yards of the more thickly settled portions of the city, in all fresh-water collections, such as rain-water barrels. The water supply of Havana is very hard, and nearly every house in the city has a barrel of rain water for domestic purposes.

Early in the season the Mayor issued an ordinance requiring every collection of water in the city to be kept mosquito proof. After one or two inspections this was enforced by fines. Wherever a collection of water was found not protected as required, the owner was fined.

The Stegomyia brigade is divided into seven sections; each section has a portion of the city assigned to it. The section consists of an inspector and two laborers, who accompany him in his inspections. Every house in his district is visited by this inspector. The inspectors report upon the condition of the water collections as to larvæ, and the manner of their protection. On this report the department acts as to fining the tenant or owner, according as the responsibility rests.

The oilers pour crude kerosene oil into all the drains, privies, cess-pools, etc., that cannot be otherwise protected. If the families are poor, the department covers their water barrel and puts a spigot in the bottom. Havana has no general sewerage system, but each house has a cess-pool. Sometimes a cess-pool will have an outlet into some neighboring drain, or it may not have any outlet at all. All these cess-pools and the drains leading thereto are favorite breeding-places for the common *Culex pungens*, and to a very slight extent for the *Stegomyia*. The only way of managing these is by oiling. Practical experience has taught us that when mosquitos are troublesome in a house, they are almost invariably bred in that house, or in the contiguous houses, and of the *Stegomyia* that can be stated as a fact almost without exception. It is a very domestic mosquito, seldom leaving the immediate neighborhood of the place of its birth.

The work within the thickly inhabited part of the city has had a most striking result in the general decrease of the mosquitos. The chief of the division estimates that we have not more than one-tenth the number of mosquitos in the city at present that we had at this time last year, and so far as I can observe. I can concur in this estimate.

We can give accurate figures as to the number of houses which had deposits of larvæ. When the work was first commenced, the ground was carefully gone over by inspectors and a report made that mosquito larvæ were found on 26,000 different premises. At the last inspection, going over the same ground, less than 200 premises contained larvæ. In this work during the past year we have employed constantly from thirty to fifty men.

Havana has its population crowded into a very small area, the garden and farm districts coming right up to the city proper. This was due to the fact that the Spanish military authorities drew a line beyond which they would not allow buildings, so that the gardens commence at these buildings. These gardens are constantly irrigated, irrigation ditches traversing the country in every direction, and they are great places for breeding mosquitos, particularly the *Anopheles*.

For work in this district we organized an *Anopheles* brigade; at one time during the Summer, we had as high as 150 men at work; at another time during the past Winter we reduced it to forty men. The brigade was entirely separate from the *Stegomyia* brigade, was under charge of a chief, and was divided into as many sections as were necessary for the work in hand. They cleaned all the irrigation ditches and

the small streams of grass, waterlilies, and obstructions, and ditched the land, and stopped irrigation on any extensive scale. The irrigation in the gardens was not found so objectionable, as the water did not stay on the ground, but was merely collected in holes and put on the ground by hand. But in the grass lands which made up the greater area around the city, we were obliged to stop irrigation altogether. These irrigated grass lands were found to be great places for the breeding of *Anopheles*, particularly such lands as were used for grazing purposes; the cattle making a hole wherever they stepped in the muddy ground, which retained the water and made an ideal receptacle for breeding *Anopheles*. In certain cases when we could not get at the water collections in other ways, we used oil. But we have about given up oil in the outlying districts. It is very much better to drain. Oil on a large area of water will blow to one side and is very difficult to distribute.

We have extensive swamps about a mile from the city, across the bay, covering several square miles. These we have not attempted to drain in any way, as we have no evidence of mosquitos having come from them.

This is a rough description of the work we have inaugurated for preventing the breeding of mosquitos.

To prevent the mosquito from becoming infected from the yellow-fever patient, we have screened, at public expense, every yellow-fever case as it has occurred, having the family designate the room or rooms they want to occupy, and at once putting up wire screens at the doors and windows, and stationing a guard at the door to see that proper precautions are observed with regard to keeping the door closed.

With the object of destroying the infected *Stegomyia*, we organized three fumigating brigades of thirteen men each, under the direction of a chief. These at once went to the houses, and as soon as the patients were screened went to work killing mosquitos. The screening was generally completed within two hours after the case was reported. Each room in the house outside of those occupied by the patient was closed; the cracks were carefully pasted, and pyrethrum powder was burned at the rate of one pound to every 1,000 cubic feet of air space. At the end of three hours the room was opened, and the mosquitos were swept up and destroyed. The whole house was gone over in this way, and on the possibility of some of the mosquitos having escaped, the houses adjoining the infected house were treated in the same way. On an average, 150 pounds of pyrethrum were used to a disinfection.

As soon as the patient had recovered or died, the rooms occupied by him were gone over in the same way, and the infected mosquitos were killed before the screens were taken down.

Pyrethrum is not the best insecticide, but it was used because it was least objectionable to the people being fumigated. Sulphur is very much better, but it injures so many fabrics that we never use it in rooms where any injury can be done. From the stupor caused by the pyrethrum powder a certain number of mosquitos will revive when exposed to the fresh air, and for this reason, after the fumigation the mosquitos have to be carefully collected and destroyed in some other way.

The habits of the *Stegomyia* have greatly assisted us. They seem, a general rule, not to leave the neighbor-

hood of their birth-place, and for this reason we were able last Summer to get all the infected mosquitos around each focus as it developed by killing the mosquitos in the way described.

In this work we have employed through the year an average of about forty men, and spent about \$7,000. The results are first, the extermination of yellow fever; second, a marked decrease in malaria.

Yellow fever is known to have been present in Havana ever since the English occupation of 1762, not a year having passed since that time without many deaths from this disease.

A table has been prepared which shows for the year of mosquito work, from April 1, 1901, to March 30, 1902, there were only five deaths from yellow fever in Havana. Since September 28, 1901, there has not been a single case. The maximum for the same period, according to the table, is 1,385 in 1896—97; the minimum, 122, in 1899—1900; average, 467. These results, it seems to me, are due entirely to the mosquito work.

Our reports for 1900 show 344 deaths from malaria; for 1901, 151 deaths; for the first four months of the present year, twenty-six deaths.

The decrease in the death rate from yellow fever and malaria is directly attributable, I think, to the mosquito work. Havana is the first place in which mosquito work has been attempted in a systematic way and on any large scale, and we can accurately measure its results, as we have done above, by taking the number of deaths before the mosquito work and after. This work, as above described, has been going on in Havana for the past fourteen months. In the prevention of yellow fever it has attained entire suc-

cess, and while we cannot hope for such effective results as far as malaria is concerned, the statistics show that without doubt the work has decreased malaria to a very great extent.

How far such a plan as ours could apply to country districts and small towns would have to be determined by experience; but I am inclined to believe that the same general outline would apply everywhere. Mosquitos generally do not travel very far; those that annoy houses come from the immediate neighborhood, and I believe that, by destroying the breeding places in a town, or immediately around the houses, the diseases conveyed by mosquitos can be very greatly decreased.

THE SUMMER DIARRHEA OF CHILDREN.

BY W. L. HARRIS, M. D.,
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Summer diarrhea is an unfortunate term, as it means nothing specific, but is used to include all the forms of acute diarrhea that children fall a victim to during Summer. It is too broad a subject to be treated of fully in this short paper, so I shall confine my remarks to the most important features of the more serious forms of diarrhea, which include acute gastro-enteric infection, cholera infantum and ileocolitis.

As to the exact cause of these diseases we are as yet very ignorant, but we know this much, they occur during hot weather and are more prevalent in overcrowded and unhygienic surroundings. They also occur principally in bottle-fed children, and there is little doubt that improper foods and improper feeding are the prime cause in

the great majority of cases. That these diseases are due to specific micro-organisms there is little question, but as yet we are not satisfied what these organisms are.

As to the exact pathology of these diseases we know very little, and if we did know more, it would be of very little use to us in their treatment, for it is simply impossible to make a differential clinical diagnosis. In acute gastro-enteric infection we find on autopsy nothing beyond a slight congestion or hyperemia and perhaps a little thickening of the mucous membrane, and nothing to account for the serious and so often fatal symptoms observed during life. It is the same way in cholera infantum. There is simply a superficial congestion and often the gut has a washed-out blanched appearance. In ileocolitis we have a real lesion in the intestine, a decided ulceration of greater or less severity in the lower small intestine and in the colon.

The symptoms of the serious forms of diarrhea are too familiar to all of us to need repeating here, for any man who has observed a few cases has a lasting impression made on his mind. I would like, however, to say a word in regard to the symptoms of cholera infantum. It is a common error with some physicians, as well as laymen, to call all serious diarrheas cholera infantum. This should not be so, for cholera infantum is a very clearly defined disease so far as symptoms are concerned. Any man who has ever seen one case should never forget it. It is one of the most serious of all diseases among children, and due to some active toxic agent. The great prostration and rapid loss of flesh, together with the incessant vomiting and purging of

a clear serous fluid, are the characteristic symptoms of cholera infantum. In ileocolitis there is often blood and pus in the fecal discharges, and there is a great deal of tenesmus and pain, while in gastro-enteric infection there is a characteristic greenish tinge to the stools, together with mucus, but rarely any blood.

In the treatment of summer diarrhea the average medical man has his own well-defined routine ideas, but we should not be content with our present knowledge of this subject, for judging from the enormous mortality from this disease at present, we still have a great deal to learn about it.

There is no other class of diseases in which preventive treatment can do so much. We cannot properly treat this disease unless we look at the conditions which produce it. The seat of the trouble is in the gastro-enteric tract, and in our management of healthy children we should at all times see that this tract is kept in a normal healthy condition, and this cannot be done unless we pay strict attention to the feeding of all children that come under our care, whether they be breast-fed or bottle-fed. It is not only necessary that a child should be properly fed during the hot Summer months in order to prevent diarrheal diseases, but it should be fed properly all the year around. If a child's digestion is overtaxed during the Winter months, we shall see signs of it as soon as hot weather begins. The great majority of cases of diarrhea is of the fermentative class, and the slightest indigestion will often start up fermentation and perhaps a serious diarrhea unless taken in time.

There is no question about the fact that much of this diarrhea is prevent-

able, and it is as much our duty to use all possible means to prevent it, as it is to try to cure a patient when we are called in to treat the same. Dietetics can only be learned through clinical experience, and every man who does general work should try to familiarize himself with the best methods of feeding children, if he is going to practice among them. The average man is very lax in his attention to this part of his work, and, instead of giving explicit instructions to mothers and nurses, he leaves the feeding of the child entirely to their discretion and judgment. It should be remembered that a breast-fed child can, by irregular and too frequent nursing, be as easily upset as a bottle-fed child. I cannot attempt to go into infant feeding here, for it would make this paper too long. The treatment of the great majority of these diarrheal diseases is simply dietetic if seen in the beginning. Many a case is prolonged and aggravated by persistent and improper feeding.

In every case of diarrhea I am called to, the first thing I direct is to stop the milk at once, whether breast or bottle, and then I give a purge to clean out the canal, even if there has been profuse purging. I usually give castor oil if the stomach is not too irritable, as castor oil is quick in its action and also soothing to the inflamed mucous membrane. If the stomach is irritable, I give calomel in small broken doses, or if there seems much acidity in the stools I give the old fashioned mixture of rhubarb and soda. I withhold all food for six to twenty-four hours according to symptoms, and give abundantly of water, and if there is much prostration I give brandy well diluted with water. After the intestinal tract

has been thoroughly cleaned out and the symptoms have subsided to some extent, I begin and give as a food, albumen water (very weak) or perhaps a weak broth, preferably chicken. Or in some cases I give some of the liquid concentrated beef foods, such as liquid peptonoids or panopeptone, well diluted with water. I withhold all milk till all acute symptoms have passed, and this is usually from a few days to a week. I never give any milk until the fever has subsided. If the temperature remains up after the acute stage has passed it is a bad indication and shows some serious lesion in the intestine. The temperature in this disease should be watched as closely as in any other acute disease.

The only thing in the line of drugs I have found useful is bismuth in some form—either the subnitrate or subgallate. I have obtained excellent results with each. I use the subnitrate in large doses, 10 to 20 grains, every two or three hours, and the subgallate in doses from 3 to 10 grains, every two or three hours, in emulsion always. The great majority of my patients get along with no drugs whatever, but if there is much pain and restlessness and a great deal of tenesmus I give opium in some form, preferably paregoric, as it is rapidly absorbed and at the same time stimulating. I use opium only when positively indicated and always use it alone and never put it into any so-called diarrhea-mixtures, to be given after each action.

I rarely ever find occasion to use any other drugs than the ones above spoken of. I have tried the various antiseptics and astringents so often recommended, but I find them of little or no value and in most cases positively harmful.

The nausea in these cases is often very persistent, but I find that if everything is withheld from the stomach for a few hours the nausea usually disappears; however, if it does not, I give an abundance of lukewarm water, let the child vomit it and in this way wash out its own stomach. Nothing is so good for nausea as absolute rest from everything. It is rarely ever necessary to use the stomach-tube to wash out a child's stomach for nausea.

Irrigation of the colon, in the treatment of diarrhea, was very much in vogue a few years ago, but from what I can learn it is now not so much employed as formerly. The reason is plain, I think. It only does good in a certain class of cases, and often acts more to exhaust the child than anything else. In cases of colitis I have seen good results from irrigation with cold normal salt solution or sodium bicarbonate solution (one ounce to one quart of water.)

One thing that should be insisted on in all cases of diarrhea is absolute rest in the recumbent position. Rocking is bad for any sick child. Do not allow the mother or nurse to jump the child up and down in order to quiet it or to carry it in the upright position over her shoulder.

Opium is a drug very much abused in the treatment of diarrhea. It has its field, but it is limited. In my opinion it should never be used by enema in young children, for you don't know when it is going to be absorbed and you don't know when to repeat it. I never could see the rationale of giving castor oil and opium together, or opium and calomel together. You lose the good effects of both drugs. Opium does more harm in many cases of diarrhea than can be conceived of.

It checks secretions and stops peristalsis and this is seldom what you want, for the treatment of diarrhea in almost every case is eliminative; you want to get rid of the poison.

In cholera infantum, drugs and food by mouth amount to little till the acute attack is over. In the extreme prostration, active treatment should be instituted. The surface temperature should be restored by hot applications, and enemata of hot salt water should be given. Hypodermic stimulation is needed. Morphine and strychnine and brandy act well here. The system needs fluids and needs them badly, and it is often necessary to give the normal salt solution under the skin, for there is no disease the poison of which abstracts so much water from the system in so short a space of time as does that of cholera infantum. After the acute stage is over cholera infantum should be treated as other forms of diarrhea.

There is nothing in medicine more difficult than to know what to feed some of these patients on, especially the serious and long continued cases. After the acute stage is over, I usually resume the milk diet. I begin with a very dilute mixture and usually predigest it. If this is taken well, I increase the strength of the milk as the child grows better. In some cases it makes no difference how exact and careful we are in preparing and giving the milk, the symptoms seem aggravated and we have to stop the milk. Barley or rice water may be substituted for it, but children, as a rule, tire of barley and rice water very soon; however, if a little beef juice is added to it, they take it better.

Most people think that if the child is breast-fed the question of diet is settled, but in my experience this is

not the case, for I have experienced the greatest trouble in feeding a breast-fed child during an attack of acute diarrhea, when you need a solution of milk very weak in fat and proteids. It is impossible to regulate the quantity and quality of food from a breast and, as a rule, the mother is anxious and worried about her child's condition and her milk is no suitable article of food for any child. I do not hesitate to take the child from the breast and let the mother use a breast pump till all acute symptoms are over.

There is one thing more I should like to call attention to and that is the idea held by some that fresh air will cure these cases regardless of every thing else. The importance of fresh air—either mountain or seashore—cannot be overestimated, but fresh air will not cure any case so long as the patient is improperly fed or treated by drugs. I have seen many a patient brought to the seashore and the mother had the idea then that everything possible had been done for the child, but the child gradually grew worse, so she had determined to go back home, because the place did not agree with her child; however, before leaving she happened to come by my office to ask me why the seashore did not agree with her child. Upon investigation I found the child taking perhaps a half dozen nauseous drugs, as a rule some form of opium, and usually some form of food entirely unsuited to its condition. I discontinued the drugs and changed the food, and gave the little ones a rest, and often the rapid improvement was astonishing.

In closing, there are a few points I wish especially to impress upon you: First, that summer diarrhea is to a great extent a preventable disease, and

it is our duty to do all we can to instruct the mother and nurse in the care and feeding of children. Second, in our treatment of summer diarrhea we should always stop the milk, give a purge and then carefully regulate the diet for a few days even in the simplest and mildest cases, and in this way we will prevent many a case of the more serious forms of diarrhea. The treatment of the first few days is the most important in all cases, and even the simplest cases should never be neglected under the delusion that it is natural for a teething child to have diarrhea.

INFANT FEEDING.

BY MAURICE OSTHEIMER, M. D.

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Authorities all over the world agree that an infant will thrive best upon mother's milk. That many women are unable to nurse their children has been shown by A. B. Marfan, in a very comprehensive review of the subject. Mother's milk is the ideal food even for incubator babies, states De Lee. Next in importance to breast milk is a good wet-nurse, a very difficult person to find nowadays. When these expedients are both lacking, the problem of the correct infant food comes forcibly to the fore. American physicians unreservedly condemn proprietary foods, thousands of varieties of which can now be purchased, yet European physicians of prominence advise their use with discrimination. Stolzner, in Berlin, Heubner's assistant, gives an English food, of different strengths to all cases according to the directions upon the packages. In Germany and

Russia, as Troitski points out, infants are often raised on such foods, which may to some extent explain the high mortality in these countries. In France sterilized milk is in common use, very rarely being diluted; in Holland buttermilk is considered the best substitute for breast milk, and the results have been remarkable; while in America it is the rule to give modified milk, cow's milk so changed by the addition of cream, water, milk sugar, cereals, etc., as to approximate human milk in its percentage composition.

Hamilton has lately published a new method for estimating the percentage of cow's milk. He multiplies the quantity of the mixture desired by the per cent. of fat wanted, and divides this by the per cent. of fat in the cream used, which gives the amount of cream necessary, in ounces. He multiplies the quantity of the mixture desired by the per cent. of proteids wanted, divides this by 4, the per cent. of proteids in skimmed milk, and subtracts from this the amount of cream just estimated, which gives the amount of skimmed milk necessary, in ounces. The amount of the cream and skimmed milk is then subtracted from the quantity of the mixture desired, which gives the amount of the water necessary, in ounces. He adds 3 drams (a level tablespoonful) of milk sugar for every 10 ounces of the mixture, and enough lime water to make it alkaline. Westcott, who has for years been at work upon the simplification of home modifications, has recently called attention to the difficulty of adapting modified milk to young children; for cow's milk contains more caseinogen and less lactalbumin than human milk. Therefore all ordinary modifications, considering only the total proteids, are in-

efficient. To change this ratio, Westcott advises whey, which contains about 1 per cent. of proteids other than caseinogen. Johnson and Kerley also prefer whey or whey and cream mixtures in young infants. Romanoff has vaguely described his method of obtaining a milk mixture with the proper proportion of fat. Coit uses an automatic siphon for removing all but the cream or top-milk. Romanoff also employs siphonage. Freeman advises choosing for the mixture a cream in which the proportion between fat and proteids is that desired in the mixture. The fat percentage of the cream is reduced by adding milk, and water is added as a diluent. Kerley says that the most usual error made is in beginning with too strong a milk mixture. As certain infants are unable to digest cow's milk in sufficient quantities, it must be peptonized or diluted with a cereal. He considers wholly peptonized milk very rarely of value. A cereal as diluent aids digestion by causing the formation of small curds. When such a mixture is not digested, whey or whey cream should be tried. That the dilution of milk with cereal decoctions renders the casein much finer than simple dilution with water has been noted by White. He considers this to be due to starch in solution. Jacobi believes that cane sugar, and not milk sugar should be used in the modification of milk. Marfan and Prechtl agree with him. The great value of laboratory methods of modifying milk is shown in an extensive article by Holliday. When young infants can only digest a proportion of proteids insufficient for their nourishment, Westcott advises partially peptonizing the mixture, since larger quantities of proteids are then assimilated. Langstein has

collected statistics of healthy and dyspeptic infants, and infants with chronic gastro-enteritis, under one year of age, fed upon peptonized milk. Undiluted peptonized milk was well borne in small quantities, the infants gradually increasing in weight. He insists upon shaking the mixture well, to cause the production of fine curds. Frucht has been quite successful in feeding both well and ill infants upon Soxhlet's "Nahrzucker," which contains a little hydrochloric acid and more dextrose than maltose. He adds it to milk and water mixtures, thus replacing the fat and sugar lost by dilution. The small amount of hydrochloric acid in it makes the casein of cow's milk more easily digested, according to Zweifel; while its small quantity of lime salts tends to prevent the development of rachitis.

Monrad believes that while the casein of breast milk is digested by the pepsin of the stomach, that of cow's milk is digested by the trypsin of the intestines. He gave uncooked milk diluted with barley water with marked improvement in infants with infantile atrophy and dyspepsia. When sterilized milk was tried, symptoms of dyspepsia returned. Care and cleanliness are necessary that as few bacteria as possible enter milk. Ostheimer has reported several cases of rachitic infants with chronic gastro-enteritis, in which undiluted, uncooked milk caused great improvement. Townsend prefers uncooked cow's milk for incubator babies. To some of these premature infants he gives a dilute mixture of milk, water, lime water, milk sugar, egg albumen, etc., with or without cereals. Oppenheimer reports the results of feeding 91 infants upon diluted milk with excellent results. Jacobi, who quotes Bovaird's statistics upon the

rarity of tuberculosis in children following the ingestion of tuberculous milk, believes, nevertheless, that milk from cows with tuberculous udders is highly dangerous.

M. P. Ravenel, at the last meeting of the Philadelphia Pathological Society, spoke of the frequency with which tubercle bacilli from tuberculous milk infect young infants. He called attention to the fact that the infection more often enters the system through the tonsils than the gastro-intestinal tract. On this account the mesenteric glands are not usually found enlarged, in spite of the fact that the child has died of general tuberculosis. He believes that future investigations will prove the identity of human and bovine tuberculosis.

Two interesting articles have appeared upon the use of buttermilk as an infant food. Teixeira de Mattos has used it with great success for many years, adding rice or barley, heating 25 minutes, and then adding beet sugar. The mixture should be well shaken. Gain in weight occurs; no symptoms of indigestion follow; acute and chronic gastro-enteritis disappear; and rachitis is rarely noted. Infantile scurvy has never developed upon buttermilk. It is contraindicated during the first months of life. When constipation results, with a failure to gain in weight, cow's milk may be added in daily increasing amounts. Salge first tried buttermilk upon an infant of 3 1/2 months, with pyemia, so ill that nothing was digested. Gradual recovery followed, all gastro-intestinal symptoms disappearing. Buttermilk contains 0.5 to 1 per cent. fat, to 3 to 3.5 per cent. sugar, and 2.5 per cent. proteids. He found it especially adapted to infants with acute or chron-

the gastro-intestinal catarrh and infantile atrophy. He adds 15 grams of farina and 60 grams of sugar to one liter of buttermilk, while the mixture is heated for 15 or 20 minutes.

Variot strongly advocates the use of sterilized milk, especially for infants in the care of their mothers. In hospitals, however, the mortality of babies upon sterilized milk is very high. Yet Desfosses tells of the excellent results at the "Goutte de Lait," where all but the smaller infants receive it. To the very young children it is given diluted by 1-3 water. 30 grams of sugar and one gram of salt are added to each liter, while 9 bottles are given each child daily. The babies are weighed once a week. Variot reports the weight curves of several infants with infantile atrophy, who steadily improved on sterilized milk. When the quantity is well regulated, rickets does not follow. Josias and Oui have never seen rickets of infantile scurvy follow the use of sterilized milk. Hutinel believes that, while scurvy rarely occurs from the employment of sterilized milk, rachitis commonly follows the use of cow's milk, whether sterilized or not. Ausset gives it only to marasmic infants over 5 months, thinking it useless in younger children. Comby considers a certain degree of dyspepsia and rickets the natural result of using sterilized milk. Visanska also prefers sterilizing cow's milk and milk mixtures. Monrad's experience has shown that sterilized milk is better digested than uncooked milk, but no experiments have as yet shown a greater food value for infants in sterilized milk than in raw milk. While bacteria are eliminated by sterilization, the milk is so changed that rickets and scurvy seem often to follow. Kerley states that,

while milk is rendered more indigestible by heating, it is safer for use. Dessau, whose work is thoroughly and minutely described, believes that heating cow's milk for 10 minutes, from 140 degrees F. to 160 degrees F., modifies the curdling of the caseinogen so that it approaches the curd of human milk. Ransom concludes that there is no evidence to show that milk raised to 100 degrees C. or 110 degrees C. for 10 or 15 minutes suffers any diminution of its nutrient qualities. Nor is it probable that, if consumed within 24 hours of heating, it will cause infantile scurvy. The same is true of pasteurized milk, heated to 80 degrees C. or 85 degrees C. None of these methods renders the milk absolutely sterile, but they kill most bacteria, and if the milk be kept cool and drunk within 12 hours of heating, few or no spores will have developed. Pasteurization is probably less reliable than heating to 100 degrees C. for 10 minutes. Holliday and Oppenheimer both prefer pasteurization to sterilization. Spolverini however, found that infants fed upon uncooked milk regularly gained in weight, while those upon sterilized milk showed dyspepsia and lost weight. More nitrogen and fat were excreted by infants upon cooked milk than by those upon fresh milk.

Deniloff, who reviewed the subject of infant feeding, concluded that neither sterilized milk nor artificial feeding could replace mother's milk. The thing of supreme importance is not sterilization, but the rigorous observance of all the rules of hygiene and asepsis at the time the milk is obtained, and from that time until it reaches the consumer. This is practically the conclusion of the Milk Commission of the Medical Society of the State of

New York, appointed last Summer. Barns, yards, cows, milkers, and all utensils are kept perfectly clean. Bacteria are thus almost excluded. The rapid and sufficient cooling of the milk to prevent the development of the germs which do get in is accomplished by immediately immersing the pails in water kept at 40 degrees F. The milk is then kept on ice until it reaches the consumer. The Milk Commission of the Philadelphia Pediatric Society has accomplished even more than this. That these ideas are now widespread is shown by a book recently published in Detroit, by Douglas. Ransom says that infants, who live wholly or mainly upon milk as at present supplied in England, should never be exposed to the dangers lurking in the raw fluid. Hamilton considers an infant thriving only when it gains at least 4 ounces weekly. If it does not gain, it is ill or going to be ill. Gregor, in his interesting book, comments upon the enormous differences found in the fat percentage of breast milk. And it is not at all clear why an artificially fed infant with dyspepsia will do well upon the breast milk, when the woman's own child develops dyspepsia upon it. Winters advises beginning upon farinaceous foods after the seventh month, depending upon the development of the infant. Oat meal jelly, barley gruel, etc., may be added to the bottle. At one year, begin soft boiled or poached eggs, with stale bread crumbs. Then a hard crust of bread, or stale bread in milk may be given. At 15 months orange juice or prune pulp may be added. Meat, even meat juice, should be given sparingly through early childhood, since it overstimulates.

Whence we conclude that when mother's milk is impossible, for any

reason whatsoever, modified milk alone is indicated; that proprietary foods are never to be employed; that, in the home preparation of modified cow's milk, modern clean milk is to be used; and that sterilization will then become unnecessary, pasteurization in most cases being sufficient. From the tendency shown among the investigators upon the subject, the time will soon arrive when even pasteurization will become superfluous, except, perhaps, in midsummer; when dairymen will furnish a milk containing an inappreciable quantity of bacteria; and when motherless infants will be fed upon cow's milk so simply modified as to approximate very closely normal breast milk. — *The Philadelphia Medical Journal*.

THE RELATION OF THE NOSE TO THE REPRODUCTIVE ORGANS.

BY CHARLES N. COX, M. D.

Read before The Brooklyn Pathological Society, April 10th, 1902, In Brooklyn Medical Journal.

There is an old legend to the effect that when a young person has nose-bleed, he is in love. This idea must have had its origin in some vague conception of a relation between the nose and the reproductive organs. Now, it is a well-known fact that slight hemorrhages from the nose are of frequent occurrence in youths of both sexes at the time of puberty and during early adolescence. Perhaps it was the observance of this phenomenon which suggested the thought of relationship between the nasal and the reproductive organs.

I shall enumerate in a somewhat desultory manner a few observations which tend to corroborate this idea of relationship.

1. Engorgement of the turbinated bodies, in certain women, occurs with unvarying regularity during the menstrual epoch. I have had opportunity to verify this statement in a considerable number of cases. The swelling of the turbinals is frequently, during these periods, so great as to seriously embarrass nasal respiration; and that, even, in women who at all other times have unobstructed nostrils.

This congestion often causes intense headache, particularly when a swollen middle turbinate presses against the septum. The so-called "menstrual headache" is often due to this cause, plus a general hyperesthetic state of the nervous system, and can be relieved by the local application of vaso-motor stimulants to the nasal cavities which have for their object the reduction of turgescence and consequent relief of pressure.

2. Vicarious menstruation, as manifested by hemorrhage from the nose, is a well established fact and has been noted from the earliest periods of medical history to the present day.

3. Certain nasal reflexes during sexual excitement have been observed, such as congestion, sneezing, etc. I had under my care several years ago, a gentleman suffering from frontal sinus disease, who confided to me the fact that the consummation of the sexual act always produced a severe fit of sneezing, and occlusion of the nostrils.

Van der Weil speaks of a man of sanguine temperament who, every time he caressed his wife, sneezed three or four times.

Elsberg refers to a case of nasal catarrh where sneezing followed or accompanied coition.

Winn reports the case of a man who sneezed when prompted to indulgence

in sexual intercourse, immediately prior to the act. Even the thought of sexual pleasure was enough to provoke this peculiar idiosyncrasy.

Hobbs mentions two cases of severe priapism, each of several days' duration, which had completely resisted all kinds of treatment; but which were instantly relieved by the application of cocaine to the nasal turbinated bodies. In one case, there was no intimation of a return; in the other, recurrence took place a few times, but only to a slight degree.

4. Nasal disease is frequently affected by menstruation, uterine or ovarian disorders and the menopause.

In a great many women with nasal disease, the trouble is exaggerated during the menstrual period. Occasionally, a nasal catarrh is more profuse at the menstrual epoch. Trousseau noted the fact that the fetor of ozena is, in most cases, more pronounced at such times. And this has, since then, been a matter of frequent observation.

The irritative influence of abnormal conditions of the reproductive apparatus on nasal inflammation is sometimes shown by the futility of all treatment, until the coexisting disease of the generative apparatus is recognized and removed or ameliorated.

We have seen that the fetor of ozena is apt to be increased during the catamenial flow. Now, it has been further observed and it is quite a well recognized clinical fact that there is apt to be a marked mitigation not only of the fetor, but of the crust formation and other attendant evils of atrophic rhinitis, after the menopause. This is a factor of considerable importance in the prognosis of that disease.

5. The relief of painful menstruation by intranasal applications has been

reported by Schiff, Fliess and other authors. This statement will probably be received with considerable scepticism. But Schiff proved that the pain of dysmenorrhea was relieved promptly in 34 out of 37 cases by the application of 20 per cent. cocaine solution to the "genital spots" of the nose; meaning by that term, I suppose, the erectile tissue covering the inferior and middle turbinal, and septum. Some cases he observed for months and had over two hundred positive results. Hypogastric pain was relieved by cocaineizing the turbinate, and sacral pain by application to the tuberculum septi. By first contracting the tissues by suprarenal solution, a 3 per cent. to 5 per cent. solution of cocain was sufficient to stop the pelvic pain. Of thirteen negative cases, four had fixed retroflexion, two adnexal disease, and one parametritis.

Chrabak, in seventeen cases, cauterized the genital spots during the menstrual interval with tri-chloroacetic acid or electrolysis with no return of the dysmenorrhea in twelve cases, one being under observation from one and one-half to two and one-half years. The latter author also noted in two cases complaint of hypogastric pain immediately upon application of the cocain plug to the turbinate.

6. The castration of young animals produces lack of development of the erectile tissue of the nose. Jonathan Wright has made some interesting investigations along this line. He procured the heads of a bull and a steer of approximately the same age. The difference in the extent and thickness of the erectile tissue in the two individuals was quite noteworthy.

TYPHOID FEVER.

BY JOHN R. STIVERS, M. D.

Visiting Physician to the Kings County Hospital; Instructor in Physical Diagnosis at the Long Island College Hospital.

Read at the Meeting of the Long Island Medical Society, March 4th, 1902, in "Brooklyn Medical Journal."

The history of typhoid fever dates back as far as the records of physicians have been kept, but it was not until the year 1829, less than seventy-five years ago, that Louis, a celebrated French physician, living in Paris wrote full descriptions of the disease and gave it the name which it has since retained.

It is believed to be the same disease which was described in the writings of Hippocrates 460 B. C. and Galen 600 years later.

The symptoms and pathological findings given by Louis in his work published in France in 1829 and translated into English in 1834 describe pretty accurately the disease as we now know it.

Almost every physician in general practice is sooner or later called upon to treat typhoid fever and from the dangerous nature of this disease, the long duration and the many complications which are likely to occur during its course, it is well for the physician to consider carefully the best means at his disposal for the treatment of each case.

The pathology consists of an infiltration and swelling of the mesenteric glands and the lymphatic glands of the small intestine known as the solitary glands, and the agminate glands or Peyer's patches. The swelling is caused by an accumulation of proliferated leucocytes which become necrotic and disintegrate about the eighth or tenth day of the disease. If

disintegration takes place in large quantity the dead cells are discharged into the bowel, leaving a raw surface known as the typhoid ulcer. The floor of this ulcer may be the submucosa, the muscular coat of the bowel, or nothing but the peritoneum.

The ulcer may exist in the large intestine or even in the appendix, and perforations with fatal results have been known to occur in these locations.

The diagnosis in most cases is not difficult although frequently it cannot be made until several days after the onset of the fever, the uncertainty being due to the indefinite and inaccurate history given by the patient, the irregularity of the temperature and the possibility of the fever being caused by some other disease, such as malaria, meningitis, acute tuberculosis or some septic trouble and I may mention also the possibility of typhus fever. However, the severe frontal headache, the pain in the lumbar region, the coated dry tongue, the distended and painful abdomen, diarrhea, the enlarged spleen and the peculiar expression of the face, are symptoms, which taken collectively, will nearly always establish the diagnosis by the end of the first week; especially if these symptoms have been preceded by the prodromal symptoms of anorexia and general malaise. In addition to these symptoms, the rose-colored spots which authorities declare occur in 99 per cent. of cases, can be found from the sixth to the twelfth day sufficiently well marked to make the diagnosis positive. The Widal test, about which much has been said as an aid to diagnosis, is, on the whole, unsatisfactory. It consists in adding a certain quantity of blood of serum from the suspected case to a bouillon culture of the typhoid bacillus.

When the reaction occurs the bacilli become inactive and are clumped together in masses. In other words the blood from a typhoid patient contains some substance which agglutinates or destroys the motility of the bacilli in the bouillon culture.

In ordinary cases the reaction cannot be obtained before the fifth day of the disease and in some cases not before the third or fourth week, when the information is of little value to the physician. In a certain percentage of cases the reaction does not occur at any stage of the disease, and furthermore, it occasionally happens that the blood from persons in health will give the reaction; so we conclude, that the presence of the reaction does not make positive the diagnosis of typhoid fever nor does the absence of the reaction deny the existence of the disease. The diazo reaction of Ehrlich in the urine is said to be of value in differentiating between typhoid and acute tuberculosis. In the former the reaction appears in the first or second week and disappears in the third or fourth week, while in acute tuberculosis the reaction is not found until the third week and persists until the end.

The rose-colored spots, before spoken of, are circumscribed hyperemic areas similar in appearance to flea-bites. They vary in number from a very few to several scores and make their appearance in crops, each crop lasting about three days. They are the result of some irritant, and it has been suggested that the typhoid bacillus may be the exciting cause, as the germ has been found in the blood from these spots.

In regard to treatment the objects at which the physician should direct his aim should be both curative and prophylactic, curative as regards the

patient, prophylactic as regards those who have to do with the patient. The fact that so many methods of treatment are recommended is evidence that no one method will meet the indications in all cases nor with the approval of all physicians.

The indications to be met with in ordinary cases are to preserve the strength of the patient, guard against complications and keep the temperature within safe limits.

It is usually necessary to give some stimulant in the later stage of the disease, and strychnia is considered to be the best because of the small dosage, the prompt action and in that it does not disturb the stomach. It may be given with or without whiskey.

In prescribing intestinal antiseptics it should be remembered that they are not given with the idea of destroying the typhoid germs, as they are deep-seated in the lymphoid tissue and other structures of the body, nor can we hope to make the intestinal canal aseptic, as the functions of that canal are to carry off the excretions of the body. But the antiseptics undoubtedly do good in preventing in some degree putrefactive changes and thus lessening tympanites. In this class carbonate of guaiacol, salol and thymol are the drugs most preferred. Turpentine stupes also aid in preventing flatulence. They are best applied by using a good-sized piece of flannel, folded two or three times, which, after being wrung out of hot water and having a few drops of turpentine sprinkled upon it, is placed upon the abdomen, covering it with dry flannel.

Diarrhea if not excessive should be let alone. If it becomes troublesome enough to require checking a pill of lead and opium or lead, opium and

camphor, will usually give the desired result.

In case the patient is constipated the best and safest means to produce an evacuation is the soap and water enema or a dose of castor-oil. The frequent use of either however is not advocated, as constipation is not usually considered an unfavorable symptom, and ordinarily the patient may safely go three or four days without a movement. A small dose of calomel may be given occasionally.

Statistics show that the majority of cases of typhoid fever are contracted through contaminated drinking water. Being aware of that fact, it should be the duty of the physician while attending a case of typhoid to ascertain if possible the source of the infection, that he may protect others against a similar danger. The drinking water should be sterilized and most careful instructions should be given to those in attendance in regard to disinfecting not only the stools and sputum but the bed-linen, towels and everything that has come in contact with the patient himself. The buttocks and hands should be thoroughly washed with an antiseptic solution after each bowel movement. It is only by the rigid enforcement of prophylactic measures that we can hope to decrease the number of typhoid cases.

The feeding of the typhoid patient is a matter of great importance and it is now pretty generally agreed that the diet should be absolutely liquid. The writer depends almost entirely upon milk. If the patient be unable to digest raw milk it may be peptonized, using the cold process, or given in the form of koumys or junket. Butter-milk is more agreeable to some patients and I know of no objection to its use.

In addition to the milk a small quantity of beef-juice, bouillon or grape-juice may be given, but under no circumstances should the patient be allowed any bread, cracker, cereal or meat until the temperature has been normal for a period of at least seven days. Instances are frequent of a reinfection following closely upon the administration of some solid food during convalescence, and therefore the greatest care should be exercised in this particular. Especially should this be emphasized during and after the second week, when the Peyer's patches are ulcerated and perforation or dangerous hemorrhage is likely to occur.

Concerning the different methods of reducing temperature, I consider the cold sponge or the ice-pack the most satisfactory. While the tub bath or Brand's method is more effectual in bringing down a high temperature, it is not adaptable for most cases in private practice owing to the inconvenience of having a tub in a bedroom and also because of the extra help required to give the patient a bath. Furthermore on account of the shock that is likely to occur to the patient during or after the cold plunge, I do not believe that such a bath should be given unless a physician is present or within easy reach, and outside of hospital practice it is almost impossible to meet these conditions. The Brand system of treatment was originated by Earnest Brand of Stettin in 1861. By this method the patient is put into the bath with the water at a temperature of 70 degrees F. and ice added until the temperature of the water is lowered five or ten degrees. The patient may remain in the bath five, ten or fifteen minutes, during which time the limbs and back should be rubbed constantly

by the nurses. It is well to give a little whiskey before placing the patient in the bath. After being removed from the water the body should be wrapped in flannel blankets. The temperature should be again taken in a half hour to determine the effect of the bath. The statistics of cases treated by the Brand method show a larger percentage of recoveries than those treated by any other method. The advantages claimed for it are that in addition to reducing the temperature it acts as a stimulant to the circulation and prevents in a large degree the severe nervous symptoms of typhoid, such as headache, restlessness, delirium and coma vigil. The method has met with the approval of many leading practitioners and is in common use in most hospitals. A possible reason why the Brand system has not met with universal endorsement may be that in certain cases the patient has not been able to stand the immersion into the bath at a temperature of 70 degrees F. In cases where the patient is unusually asthenic or has a dread of the cold plunge, the bath at the beginning should not be more than 10 degrees or 15 degrees below the body temperature. It can be gradually cooled and the unpleasant effects overcome. During the bath, ice water should be frequently poured over the head and constant friction applied to all parts of the body, except the abdomen. The friction is of almost equal importance with the bath in helping to keep the circulation equalized. Blueness of the extremities while in the bath is not regarded as a danger sign, but cyanosis of the face should be a warning to remove the patient from the water.

Antipyretic drugs are to be interdicted, for although they may reduce the temperature, it is at the expense of the patient's strength, and undoubtedly the temperature will do less harm than the depression caused by the drug. They exert no lasting effect upon the course of the fever, the temperature curve not being changed except during the time that the patient is under the direct influence of the drug.

An important fact that is often lost sight of during the convalescent period is the danger of acute dilatation of the heart. It should be remembered that after a long run of fever the heart walls become emaciated and flabby, as do the other muscles of the body, and for this reason the patient should be guarded against undue excitement or exertion, for dilatation of the heart at this time is certain to be followed by serious if not fatal results.

In regard to the ultimate result, as so much depends on the careful, intelligent care which the patient receives, I would emphasize the advantage of having a trained nurse, or better, two trained nurses for every case of typhoid fever, for while many cases recover with ordinary family care, severe cases should have the benefit of the most skilled and scientific nursing.

The following is a report of forty-four cases of typhoid, including patients in private practice and in the hospitals treated during the past fifteen months.

Eighty-seven per cent. of the cases treated were under the age of thirty years. Thirty-two were males, twelve were females. Thirty-eight of the cases recovered and six died, making a mortality rate of thirteen and one-half per cent. But of the six cases that died, three were moribund on admission to

the hospital, two dying on the third day and one on the fourth day after entering, so that, excluding those three cases the mortality is reduced to 7.3 per cent.

The death rate in those over thirty years of age was 33 1-3 per cent., there being six cases and two deaths. Two cases had severe intestinal hemorrhages, one, a girl sixteen years of age, having twenty hemorrhages in four days and the other, a girl of fourteen, having sixteen hemorrhages in about the same length of time. The hemorrhages occurred in both cases during the third week of the disease. Both patients recovered.

Two cases presented symptoms during the convalescent period that should serve as a warning to physicians that extreme caution should be exercised in regard to the exhibition of solid food. These cases, both of moderate severity, had nearly run their course and were thought to be doing well when in each case the temperature started up and remained in the neighborhood of 102 degrees F. for four or five weeks longer. The patients, we supposed, were on the usual typhoid diet and careful examination of the lungs failed to show any involvement of those organs, so that, the temperature could not be accounted for until later it transpired that one of the patients in the convalescent ward had been smuggling bread to these two patients each morning during the temporary absence of the nurse. After this discovery was made and the errors in diet were corrected, the temperature dropped and both patients recovered.

The average time in bed of all cases that recovered was seven weeks. The patients all had the bath treatment, either the tub bath or the cold sponge,

with such medical treatment as seemed indicated in each case.

The published statistics of typhoid fever cases treated in fever hospitals have shown, until recently, a death rate of from 17 per cent. to 20 per cent. so that there should be some degree of satisfaction to the profession if the bath treatment has reduced the mortality from 20 per cent. to less than 10 per cent.

I wish at this time to acknowledge courtesies shown me by Dr. J. T. Duryea, Superintendent of the Kings County Hospital, and by Dr. Palmer Townsend, with whom I was associated in the treatment of a number of the cases.

ADENOIDS IN INFANCY.

Chappell (*The Laryngoscope*, September, 1901,) doubts the congenital theory of adenoids. He states the difficulties experienced in demonstrating the presence of adenoids in very young infants, and says that the following conditions may cause respiratory obstruction simulating that caused by adenoids in the nasopharynx in infants under six months: Lymphatism and lithemia, syphilitic or gonorrheic rhinitis, congenital atelectasis, digestive disturbances, congenital highly arched palate, very small or occluded nostril or nasal passages, small post-nasal spaces, malformations of the soft palate and hypertrophy of the tongue. These are considered separately. In an examination of 437 infants under three years, 45 were found under seven months old who had some nasal obstruction, but in no child under three months was the obstruction due to lymphoid hypertrophy in the nasopharynx. Of this number 87 had adenoids alone, 80 adenoids and enlarged tonsils, 44 hyper-

trophied tonsils, without adenoids, 50 hypertrophic rhinitis, 21 foreign bodies, 20 eczema naris and folliculitis alae nasi, 13 specific rhinitis and 4 deflected septa.—*American Med.*

TREATMENT OF ULCER OF THE LEG.

Schulze recently reported a series of cases of ulcer of the leg, which he had treated by various ointments containing camphor, and at the same time he criticised the use of "wine of camphor" unfavorably for two reasons: first, he stated, that it caused pain, and, secondly, that the treatment was unsuitable for certain cases. Walbaum (*Munch. Med. Woch.*, June 25, 1901) writes that he had used camphor and especially "wine of camphor," in cases of chronic ulcer of the leg, and has not met with a single instance where it failed to heal the wound up completely. He has never heard a patient complain that the application was painful. The method which he employs is the following: The leg is well washed and rubbed with soft soap and water, and then a dressing moist with "acetic acid clay" is applied daily, until the exudation is less and nearly odorless. This usually takes two or three days only. He then applies the wine of camphor on a graduated compress, which is covered with a dry layer of gauze, and over that a piece of protective not quite reaching the edge of the dry gauze. The whole is enveloped in cotton wool and carefully bandaged. This has to be renewed every alternate day, and before it is put on again the leg is well rubbed with a pad of cotton wool soaked in lysol or carbolic acid solution. We find that the ulcer usually heals up with this treatment in three weeks.

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ORIGINAL ARTICLES of practical utility and length are invited from the profession. Accepted manuscripts will be paid for by a year's subscription to this journal and one hundred extra copies of the issue in which such appears if desired.

Editorial.

THE ANTITOXIN CONTROVERSY IN MASSACHUSETTS.

It looks now as if the Massachusetts State Board of Health will agree to do as Gov. Crane and the attorney general may advise in the matter of keeping on with the manufacture and free distribution of antitoxin in the State. Good lawyers are looking up the precedents on similar cases, and we can say that prominent members of the Legislature stand ready to pledge their influence in favor of a bill early in the next session to reimburse the members of the State Board all that they may have to pay out of their own pockets, for the present, to keep the State Laboratory going.

Meanwhile some definite rumors are flying around on Beacon Hill. It is charged that while four out of the eight members of the House Committee on Public Health, which refused to grant the State Board the right to continue to make antitoxin, were druggists. It has been figured that if the State Board can be prevented from furnishing antitoxin to the hospitals and others who need it, the drug trade might clear something like \$180,000 a year.

What motive the druggists may have had in this blow at the State's work which has reduced the diphtheria mortality two-thirds, it is easy to figure out; but if the charge is true, we do not think the public will take kindly to the idea of a man serving as an influential member of a committee which is considering a bill so financially important to the drug trade and serving on a trade committee to "look after legislation" on Beacon Hill at the same time.

If the State Board should close down its antitoxin laboratory, that would be just what the plotters wanted. If it goes ahead, however, illegally, the plot will be robbed of all results. It is simply whether the Board will do what the Legislature refused to allow it to do. It is not often that public sentiment favors such a high-handed policy, but so far as we can gauge public sentiment in this case it favors the idea that the Board go ahead and cheat the plotters out of their expected victory.

What is the State Board of Health intended to do? To protect the public health and guard the public's interests. Is there any question what the public interests are in this case or how the public health can be best protected?

Is there any question what the public would say if the matter were left to a popular vote to-day? The whole thing narrows down to a question whether the Board will help on or defeat a trick of the lobbyists.

We think that the Board of Health will take this view of the case. Technically they may have no right to use the State's money in making antitoxin which is to be given away. Morally they are bound to do what they can to save life. When the two things conflict, we are inclined to believe that public sentiment will say that the Board should try to save life first and consider the technicalities afterwards.

Of course there is the money to be considered. Suppose the State Auditor says that the State's money cannot be used in gratuitous distribution this way, without any authority and even against the recorded wish of the Legislature. We can say that there is reason to believe that the Auditor may rule against allowing any such bill. But even then the medical associations can raise the money so that the State Board will not have to go down into their own pockets for the \$5000 required, rather than go back to the old way under which every doctor had to pay from \$1.50 to \$2 for what the State has now been furnishing at ten cents.

From what we could learn, last night, as to the views of the members of the State Board, we think that it will vote to go ahead and defy the druggists' combination; that it will try to find some way of furnishing the antitoxin free without breaking the law; and that it will rely on the strong assurances that if the State refuses to pay the bills, the money will be forthcoming from other sources. The State Board fully realizes its responsibility in this

matter and its duty to protect the public health; and we predict that it will dare the druggists, in the present strong state of public feeling, to try to get out an injunction or to interfere with the Board's business in any other way.

THE RESULTS OF VACCINATION.

As smallpox has been uncomfortably prevalent in certain parts of the country, it may be well to call attention to a comparison that has been published of the fatality among the vaccinated and unvaccinated in certain English cities.

The comparison instituted in England is one well calculated to bring out certain positive conclusions. It is confined to the experience of persons under 10 years of age—that is, the effect upon these of smallpox, and whether they have been or have not been vaccinated. In the cases of these children, vaccination, it may be assumed, has in almost all instances proved effective when they have been vaccinated, and when they have not been there is little difficulty in demonstrating that fact. Thus, in the ten years of the last decade, in London there were 797 cases of smallpox in persons under 10 years of age. Of these, 125 were cases where the children had been vaccinated, 672 were in cases where there had been no vaccination. Of the former number, none died; of the latter, death was recorded in 153 cases. In the city of Gloucester, in the two years of 1892-93, inclusive, there was a smallpox epidemic, in which 706 children under 10 years of age took the disease. Of these, twenty-six had been vaccinated, while 680 had not been

vaccinated. Of the vaccinated children, one died; of the unvaccinated, 279. A few years previous there had been a smallpox epidemic in Sheffield, with the result that 353 children under 10 years of age had it who had been vaccinated, and of this number six died; 228 similar children were struck down by the disease who had not been vaccinated, and of the last number 100 died. These statistical statements make it evident that, while vaccination does not entirely prevent the possibilities of infection, it does reduce to an enormous degree the probabilities of a fatal ending to the disease.

PHYSIOLOGIC THERAPEUTICS.

This term has been adopted by the editor of a series of books being published by the Blakistons, but it has been criticised because the claim was and is being made that it represented methods of treating the sick other than drug-giving. The criticism is well taken, for all treatments, of whatever kind, have a more or less physiological effect.

The term non-medical practice would be open to somewhat the same objection, for all methods tending to restore or relieve the sick may be called medical. Still, we must have a name, and if it be rightly understood, one will do as well as another.

The growth of non-medical practice, using the term in its restricted sense, has been somewhat phenomenal.

The methods or systems range from Electrotherapy to Osteopathy and from magnetic healing to Christian Science. There is some good in all the different and differing modes of treatment, for all have scored more or less victories over disease.

No one system, however, can justly claim to be the only one to be followed in all cases. Medical Science, the broadest and the most liberal of all the systems for treating the sick, does not as yet fully realize or recognize the importance and usefulness of many, if not all of the non-medical methods in selected cases.

Dr. J. F. Ritter, in the *Medical Council* for July, 1902, page 246, in writing upon "Medical Fads and Quack Methods," states some very pertinent truths respecting the attitude of the profession towards "Physiologic Therapeutics."

None of these so-called "Fads" are new; they are but old acquaintances in a new dress, and under another name. They are here to stay, and must be reckoned with.

Medical practitioners should sufficiently familiarize themselves with these methods so as to be able to determine when they should be resorted to; and how they should be administered, up to a certain extent.

Dr. Ritter suggests that every physician should be fully qualified to administer non-medical methods. He says—"If these subjects are properly investigated, each and every physician can become an expert psychologist.

"He can as readily give a massage treatment as put up a box of pills; as readily give a treatment in magnetic healing or suggestion, or what not, as put up a bottle of tonic, not to mention the excessive cheapness in the material necessary for the former."

No one can become proficient in all things. They must be specialists in each branch of medicine. While a physician may become an expert in Electrotherapy, or manipulation, or suggestion, he does so, to a certain ex-

tent at the expense of his understanding of and reliance upon *materia medica*. Either the one or the other is given in a half-hearted manner. This is especially true of mental healing. The mind is a subtle instrument, and thoughts manifest themselves unconsciously, when, perhaps, least expected.

You may flatter yourself that you have impressed a patient by your positive manner and assertion, while inwardly conscious that you do not yourself more than half believe what you so vigorously state. This underlying thought reaches and affects the inner consciousness of the patient, and you wonder why your treatment did not have the desired effect. This is where so many fail. Not everyone may or can become a good mental healer. Neither can everyone become a good electro-therapist, or a good manipulator. There must be an abiding and growing faith in your method of treatment, and that faith must be instilled into the patient or the greatest good will not result.

Instead of every practitioner attempting to give electro-therapeutic or magnetic or manipulative, or mental science treatment, it will be far better, in our judgment, to refer patients requiring such treatment to a competent, conscientious practitioner in these branches. Elevate the practice by frankly acknowledging its value, and by referring patients to the practitioner having the proper qualifications.

W. H. W.

—No physician can afford to be indifferent in the filling of his prescriptions. In these days of substitution the physician should insist that the original should be used.

SUBSTITUTORS STEAL PHYSICIAN'S PATIENTS.

Incidentally, the Antikamnia Chemical Company is after "Counterfeiters" and "Substitutors" with a sharp stick. Their work in New York City is, no doubt, well known to our readers, and they have now broken up a counterfeiting gang in New Orleans.

There can not be two views on the subject of substitution. It is swindling, pure and simple. Antikamnia and Antikamnia Tablets are made only by The Antikamnia Chemical Company, of St. Louis, Mo., and when a physician prescribes either Antikamnia powdered or tablets he means the products of that firm. If his patient does not get them, a fraud is perpetrated, not only upon The Antikamnia Chemical Company, but upon the physician and his sick patient for whom the medicine was intended.

In other words, the doctor's patient is taken out of the doctor's hands, transferred absolutely to the substitutor's care and then given whatever remedy the substitutor thinks best. All this, irrespective of the doctor's diagnosis. In short, the treatment is in accordance with the "diagnosis" made by the substitutor. And as all substitutors are thoroughly saturated with avarice, greed and utter disregard of the most sacred rights of others, the fate of their victims can well be imagined. It is purposed of The Antikamnia Chemical Company to expose and punish this crime wherever they locate it, and they have notified the trade that the least punishment "Substitutors" of this kind can expect, is exposure of their guilt.

BOOK REVIEWS.

Physical Culture.

We have been greatly benefited by the exercises in Physical Culture sent us by the Stone School of Scientific Physical Culture, Chicago, Illinois, and can commend them to our readers. In the treatment of Locomotor Ataxia they would be especially valuable, combined with the proper application of electricity. Taken early, every such case should be cured. W. H. W.

Composed of Special Pathology. By Alfred Edward Thayer, M. D., Assistant Instructor in Gross Pathology, Cornell Medical College; Pathologist to the City Hospital, etc., and Professor of Pathology and Bacteriology, West Virginia University. 322 pages; 34 illustrations; Cloth, 80 cents, net. P. Blakiston's Sons and Company, Publishers, 1012 Walnut Street, Philadelphia, Pa.

Quiz compends have been condemned, but they serve a very useful purpose at times.

The one before us gives the salient points in special pathology in a clear, concise and attractive manner.

This book is a companion to the one on General Pathology, by the same author. The latter was reviewed in the April issue of this Journal. Together, these volumes form a very valuable addition to the physicians', as well as to the students' library.

W. H. W.

Spiritism, Hypnotism and Telepathy as Involved in the case of Mrs. Lenora E. Piper and the Society of Psychical Research. By Clark Bell, Esq., L. L. D., Pres. Medico-Legal Society, and the Discussion before the New York Medi-

co-Legal Society, and its Psychological Section, by Thos. Jay Hudson, L. L. D., Rev. Geo. H. Hepworth, Prof. W. Xavier Suddoth and others of equal prominence, 171 pages, with portraits of many of the authors of papers, etc. Published by the *Medico-Legal Journal*, 39 Broadway, N. Y.

The standing and the scientific attainments of the members of the Society of Psychical Research gives a sufficient guarantee that the investigation reported in this work were made with perfect fairness to all concerned. That there should be some diversity of opinion is but natural. That there should be firm believers in Spiritualistic communications from the other world is also natural. This belief has been held from time immemorial, and will continue to the end of time. No one would be more thankful or pleased than the writer to receive a message or messages from dear ones gone before, but the message must come direct, and not through a third party.

There are times when a departed loved one seems to be present, and thoughts present themselves that it is comforting to believe are suggested by that loved one, but there is no evidence acceptable to the senses.

We are encased by the material, and we look for material evidence, but it is wanting. If we can only grasp the thought that we are in reality spiritual entities, and capable of conferring with other spiritual beings, the way would seem clearer. This is the only way in which we can hold communion with our Maker; why should we not be able to meet and commune with kindred spirits in the same manner, but as just stated, for ourselves, we must get our communications, if they come, with no intermediary.

There are many, many, so-called mysteries waiting investigation, that will be mysteries no longer when we arrive at a proper understanding of the laws governing them, for all things are subject to law; it is for us to study and understand those laws, and the way will become clearer and clearer as we advance. Such investigation must, however, be made with the earnest and only desire to arrive at the *truth*; not what we may have preconceived ideas as to what truth is, but the truth itself.

Science and religion are never antagonistic to each other; that they seem so at times is the fault of their would-be defenders or defamers. The report before us makes many things clear that have been but partially understood, and yet, with all the light possible thrown upon these subjects, we still "see through a glass darkly," because of our limitations. Progress is being made, however, and the Society of Psychical Research is doing much in that direction.

Space will not permit a more extended review of the book before us, therefore we urge every thoughtful man and woman to read it, and to judge for himself and herself in the matter.

W. H. W.

Eales and Taber's Anatomical and Physiological Encyclopedic Chart of the Human Body, 34 x 45 inches, printed in colors, on both sides, and mounted on rollers. Price \$5.00, published by Drs. Eales and Taber, Waukesha, Wis. and Temple Building, Chicago, Illinois.

This chart is very elaborate and most admirably arranged. On the face side is a vertical-median diagram of the brain and spinal column; tables

of the origin, distribution and function of the cranial nerves; points of access to treat the same. Origins and parts of the body, size, weight, description, location, function, capacity, etc. Also, secretions and excretions, amount, specific gravity, reactions, etc. Points for treatment; nerves and plexuses of the sympathetic nervous system: diagnosis on signs of diseases and what they indicate, etc., etc. On the reverse, we find a diagram of the spinal nerves and plexuses with the sympathetic nerve connections. Table of the muscles of the body, names, origin, insertion action, nerve supply and blood supply. In all, twenty or more tables covering a variety of important subjects, including analysis of foods, the metric system, etc.

As stated in the June number of this Journal, our Osteopathic friends are good anatomists, and pay particular attention to the nervous mechanism in the treatment of disordered conditions. This chart gives at a glance information that is invaluable, and we commend it to our readers.

W. H. W.

PAMPHLETS AND REPRINTS

The Monthly Report of the Board of Health for the Philippine Islands and City of Manila.

Monthly Report of Health Department of Los Angeles, Cal.

Monthly Report of Health Department of Havana and Guanabasca, Cuba.

Contributions to Practical Therapeutics by Albert C. Barnes, A. M., M. D., and Herman Hille, Ph. D.

The Medical Book News. Issued by P. Blakiston's Son and

Co., Phila. This is well arranged and includes descriptions of important books; reviews from medical papers; *New Items*; lists of the most recent American and English books of all publishers; Lists of new books on special subjects, and announcements of forthcoming books.

It is a pleasing and instructive periodical, and much more satisfactory than the old stiff and formal catalogue. We congratulate the house upon its enterprise and wish it abundant success.

Proceedings of the Pathological Society of Philadelphia, May, 1902, Published by the Society.

Weekly Bulletin of New Books by the MacMillan Co., N. Y.

Report of the Philadelphia Pediatric Society Milk Commission.

A CORRECTION.

The Carotid Gland.

In a review of "Smith's Osteopathic Chart," last month, we inadvertently stated that the "Carotid Plexus" was not described by Gray. We should have said, the "Carotid Gland." Will our Osteopathic anatomists please note the correction. They make a landmark of this gland, which Gray fails to note.

W. H. W.

—No physician can afford to be indifferent in the filling of his prescriptions. In these days of substitution the physician should insist that the original should be used. Don't trifle with substitutes.

OPHTHALMOLOGY

In charge of A. J. TENNEY, M. D., Boston.

Three immigrants arriving at the port of Baltimore were found by the U. S. Marine Hospital physicians to be suffering from trachoma, and were forbidden to land by the Immigration Board.

The Board of Health of New York City, on account of contagious ophthalmia, has appointed a corps of eleven physicians to inspect school children daily until the Summer vacation. Their pay will be \$100 a month.

H. Douglas Singer (*Lancet*) has found that absence of optic neuritis accompanying intracranial tumor is rare in cases under forty years of age, and becomes more frequent after that time of life. He thinks this may have an important bearing upon the cause of optic neuritis with reference to the condition of the vessel walls.

Dr. Swan M. Burnett (*Oph. Rec.*) reports an additional case of amblyopia with central color scotoma following the ingestion of Jamaica Ginger. The general perception of all colors except blue was absent or abnormal. This shows a macular neuritis, which also affects more or less the whole retina.

Dr. Gould (*Am. Med.*) reports six cases of epilepsy caused by ametropic eye-strain. They were practically cured by the proper adjustment of spectacles. He concludes that eye-strain is a relatively uncommon cause of the disease, but when it is, it should not be neglected. He notes that the ametropia frequently changes, and may need subsequent correction.

S. B. Muncaster (*Oph. Rec.*) describes an instrument devised by Dr.

oscillation of the eyeball forward and backward for such troubles as nerve atrophy, choroiditis, etc. The eye is moved forward by the vacuum produced by the instrument, and brought backward by the elasticity of the surrounding tissues. This motion produces stretching of the posterior nerves of the eye, increasing their nutrition. He has seen good results follow its use in these cases.

W. Stood (*Deutsche Med. Wochft*) has ripened 130 cases of cataract after Foerster's method, out of the 430 cases on which he has operated. In many cases results were apparent in less than 24 hours. He found it most effective in cortico-nuclear cataracts, less so in the nuclear variety, and it proves useless in lamellar cataracts. The cataracts were ready for extraction in from three to six weeks, in 120 cases out of 130. He observed that these cases healed more rapidly than those that ripened spontaneously.

The carbonic gas in Sparkling Allouez water possesses the singular virtue of lessening the sense of hunger. The water in this form should be employed in cases of diabetes, in which bulimia is a prominent symptom. The seat of hunger is found in the solar plexus. Its branches distributed through the mucus membrane of the stomach, are so influenced that the ravenous hunger often present in diabetes and certain forms of indigestion is wholly appeased.

Sparkling Allouez may likewise be profitably used in cases of hyperpepsia where the patient suffers from a sensation of goneness or emptiness. In acute acid dyspepsia, heart burn, catarrh of the stomach and intestine, and in flatulency it gives prompt relief.

MISCELLANEOUS.

OPERATIVE TREATMENT—ADENOIDS AND ENLARGED TONSILS

Dr. W. K. Simpson read this paper. He was decidedly in favor of operating on all cases of hypertrophy of the tonsils or of adenoids where there was sufficient of the growth to produce symptoms. He pointed out that these pathological conditions were responsible for many of the ills of childhood, as, for example, for repeated attacks of coryza, asthma, spasmodic croup and bronchitis, as well as for most cases of middle-ear deafness. A digital exploration should precede operation. The finger never should be used for the removal of these growths; either the curette or forceps should be employed. The choice of instrument was largely a personal matter. His own preference was for the forceps, because by its aid one could remove a larger mass and could see what had been removed. The forceps should, however, be large and strong, and should have a sufficiently large cutting edge and a shield to prevent injury to the uvula and posterior border of the soft palate. Some form of the Graedle forceps was commonly employed; that known as Concannon's modification was one of the best. A mouth-gag having been inserted, the forceps should be introduced closed, then opened widely, pressed well upward and back, and the growth seized and withdrawn. If a curette were preferred, some form of the Gottstein curette would probably be selected. It should be selected with a view to size and proper curve, these being determined by the age of the child and the situation of the adenoids. If the operation Henry F. Garey for the production of

ation were done without an anesthetic the child should be held upright in the intubation position, otherwise the patient's head should be raised for a moment during the introduction of the instrument, and then lowered and turned to one side to favor the escape of the blood.

Dr. Simpson said that he preferred to extirpate the tonsils by the aid of some form of tonsillotome, either the simple and admirable instrument of Mackensie or Ermold's simplified Mathieu tonsillotome. The secret of success in thoroughly excising the tonsil was making pressure outward upon the shaft of the instrument, and keeping up this pressure until excision had been completed. While the operator pressed outward, the assistant should, by external pressure on the neck, press the tonsil into the ring of the tonsillotome. If the tonsils were intimately adherent to the pillars of the fauces, they should be freed with the scissors before using the tonsillotome. Tonsils once thoroughly extirpated do not return. The surgeon need not fear hemorrhage in children. The bleeding may be rather profuse, but it usually ceases spontaneously, and if not, can be readily checked, either by finding and seizing the bleeding joint, or by the application of peroxide of hydrogen, suprarenal extract or adrenalin solution. He had found the latter especially serviceable in connection with the excision of the tonsil in older children or in adults, though it was claimed by some that adrenalin predisposed to secondary hemorrhage. The less after-treatment the better. Douches, sprays and powders should not be used, for they were apt to cause an undesirable degree of motion of the throat, and so favor bleeding. The patient should be kept quietly in the house, and the

diet, which should be light, should not embrace such things as crusts of bread, dry crackers or meat. The comfort of the patient would be enhanced by allowing cracked ice to swallow, or by the external application of ice. Dr. Simpson said that while he believed general anesthesia was almost essential to thoroughness in an operation on adenoids, he did not favor the use of an anesthetic in tonsillotomy, because the gagging of the patient aided in bringing the tonsil better into view, and a conscious patient was more manageable in the event of dangerous hemorrhage occurring.—*Archives of Pediatrics*.

TREATMENT OF GONORRHEA.

Heaton (*Birmingham Med. Rev.*, Feb., 1902) condemns the abortive treatment by means of the injection of a solution of nitrate of silver of gr. xv, or xx to one ounce. The disease frequently fails to abort within the promised fourteen days. In fact, the gonorrhea often pursues its course unchecked, or the acute symptoms may even be accelerated and intensified. Moreover, there is risk of urethral and of periurethral abscesses, and of secondary strictures. Systematic treatment and very frequent irrigations of the anterior urethra during the early stages with mild antiseptics are also discarded as too tedious and laborious. The general treatment in acute cases is of great importance. In so far as possible, absolute physical rest should be enjoined. The patient should be kept on a reasonably low diet and fluids should be given in considerable quantity. Hot hip baths are of great service. Both penis and scrotum are to be supported by bandages. Free exit must be given

to the urethral secretions, and the glans penis must be bathed at least twice daily to keep it clean. The drug treatment is symptomatic in the early stages. The oleoresins at this stage only do harm. A brisk purge to relieve the bowels, aconite if constitutional disturbance be prominent, alkalies and hyoseyamus to soothe the mucous membrane of the urethra, will fulfil most of the requirements. When the discharge is profuse, some very mild antiseptic mixed with an anodyne is to be used as an injection to wash out the inflamed canal; one or two drams of the liquid are to be injected, without the use of any force, and to be retained for one or two minutes. As the acute stage subsides and during the whole of the stage of gleet the various oleoresins form the sheet anchor as internal medicines. Sandal-wood is the most efficacious and least likely to disturb digestion; it is best given in capsules. Cubeb is especially useful in the more chronic cases. At the same stage of the disease, which is marked by a comparative thinness of the discharge and by a decrease in ardor urinæ, the local treatment is altered. Astringent solutions are now indicated. The most useful of these is permanganate of zinc in a strength of gr. 1-8, increased to gr. 1-2, to one ounce. The other sulphates, also protargol, are likewise valuable. The great majority of acute gonorrhea may be cured by these means within from four to five weeks. Those which persist and those which reach the practitioner after years of neglect fall into the category of chronic gleet and require an absolutely different plan of treatment. The persistence of the disease may be due either to trouble within the anterior urethra, such as

unhealthy condition of its entire mucosa, or a slight stricture with ulceration behind it, or "granular patches," or to trouble posteriorly, such as inflammation or abscess of the deep lacunæ or ducts, or chronic inflammation of the prostate. The use of the cold metal bougie often exerts a marked beneficial effect upon the chronically-inflamed anterior urethra. Local patches are diagnosed by the use of the endoscope, and are treated by direct applications of strong solutions of silver nitrate, gr. xv. or xxx. to one ounce, or protargol, 5 to 20 per cent., made twice or three times weekly. If the trouble lie in the posterior urethra or in the prostate, it is likely to prove extremely obstinate. The use of the cold metal sound, the daily use of medicated urethral bougies introduced into the deeper portion of the urethra, the installation of a few drops of some strong astringent by means of a special deep syringe, the daily use of large quantities of some mild astringent introduced under pressure—all these are measures which must be successively and patiently tried, perhaps only to fail.

SOLUBLE SILVER SALTS. (Collargolum.)

Dr. Roeder reported favorable results from the Collargolum treatment in phlegmonous and septic disease processes in horses and cattle; the mode of use being inunction and intravenous injection. In some cases he employed both methods at the same time. Dr. Baldoni has recommended Collargolum for the diagnosis of glanders; but he has found that even healthy horses react to it as promptly as diseased ones. But it is certain that Collar-

golum injections will transform a larvated into an acute glanders, as Dieckerhoff first pointed out.

Dr. Schmorl stated that the cases in which he found the silver pills unchanged in the abdominal cavity were all cases of gastric cancer with more or less peritoneal carcinoma, and that it is quite possible that the peritoneal disease prevented or impeded the absorption of the metal.

Dr. Haase employs the Collargolum in the form of subcutaneous infusion; that is to say, he does not inject a small quantity of a concentrated solution, but uses $1\frac{1}{2}$ liters (3 pints) of sterile water, in which 3 grams (45 grains) of Soluble Silver are dissolved. He believes that in this way the remedy enters the circulation at once; for with the container at a height of 1 meter (39 inches) the fluid diffuses rapidly under the skin, and soon spreads over the clavicle into the supraclavicular furrow. The infused fluid is absorbed in an hour; and he does not believe that any of the silver is precipitated in loco. He employed the method fourteen days before in a suppurating sarcoma of the thigh occurring in a man thirty-one years old. He amputated just below the trochanter; yet the temperature did not fall after the operation, being 40.2 degrees C. (104.4 degrees F.) on the evening of the next day. The stump showed absolutely no reaction when examined the next morning; so that the pyrexia was evidently due to general infection. At noon on the second day after the operation the temperature was 39 degrees C. (102.2 degrees F.). At 1 o'clock $1\frac{1}{2}$ liters (3 pints) of an infusion containing 3 grams (45 grains) of Collargolum was injected subcutaneously. By evening the temperature had fallen to

38 degrees C. (100.4 degrees F.); next morning it was normal. It rose again in the evening to 38.1 degrees C. (100.6 degrees F.), and then became permanently normal. He does not believe that ly normal. He does not believe that there can be any doubt of the efficacy of the Collargolum as used in this case.

Dr. F. Schantz has used the Crede ointment in suppurating epidermal affections since the Fall of 1897. He was led to do so by a case of rodent ulcer, which resisted all treatment, and which he had cauterized some six times. It ceased growing only when the Crede ointment was employed locally. Since then he employs the ointment ever more and more, and his results therefrom are entirely good. He would briefly mention only a single case in which there was a disturbance of its normal mode of action. The ointment had stood for a considerable length of time; the patient immediately after its use complained of violent burning, and the conjunctiva became quite irritated. Examination showed that the salve had become rancid, the Colloidal Silver having changed into the oleate of the metal. Since that time he no longer uses lard, as recommended by Crede, but has the ointment made up with an excipient that will not become rancid—*adeps lanæ* 1 gram (15 grains), *vaselin. alb.* 9 grams ($2\frac{1}{4}$ drams).*

—No physician can afford to be indifferent in the filling of his prescriptions.

*The ointment used in the treatment of ulcerations of the cornea, conjunctivitis, etc., is prepared according to the following formula:

R. Collargol	10 gram (15 grains)
Lanolin.	1.0 " (15 ")
Vaselin. alb	9.0 " (2 $\frac{1}{4}$ drams)

It should not be confounded with Unguentum Crede, which contains 15 per cent. of Collargolum and whose other constituents are lard, wax and benzoic ether.

**CHANGES IN THE MEDICAL
CORPS OF THE NAVY.***Week ending July 19, 1902.*

July 11. Surgeon J. F. Urie, detached from the Naval Dispensary, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, July 17, for duty as Assistant to the Chief of that Bureau.

Surgeon J. D. Gatewood, detached from duty as Assistant to the Chief of the Bureau of Medicine and Surgery, Navy Department, and ordered to the Lancaster.

July 12. P. A. Surgeon F. C. Cook, detached from the Naval Hospital, Washington, D. C., July 19, and ordered to the Supply.

P. A. Surgeon E. Thompson, detached from the Naval Laboratory, New York, and ordered to the Montgomery.

Assistant Surgeon F. M. Munson, detached from the Naval Hospital, Norfolk, Va., and to duty with Torpedo Flotilla.

Dr. R. H. Creel, appointed Assistant Surgeon, July 2, 1902.

July 14. P. A. Surgeon H. C. Curl, detached from Naval Hospital, Mare Island, Cal., and ordered to Aspen, Col., for duty with recruiting party.

Assistant Surgeon W. L. Bell, detached from duty with recruiting party at Aspen, Col., and ordered to the Mare Island Hospital.

July 15. Assistant Surgeon R. E. Hoyt, detached from the Wabash and ordered to Naval Hospital, Newport, R. I.

Week ending July 26, 1902.

July 17. Passed Assistant Surgeon E. M. Shipp, detached from the Celtic and ordered to Port Isabela, P. I.

Passed Assistant Surgeon J. A. Guthrie, detached from Port Isabela and ordered home via the Solace.

Assistant Surgeon L. W. Bishop detached from the Naval Brigade and ordered to the Celtic.

July 18. Acting Assistant Surgeons M. W. Baker, J. H. Halloway, W. C. Rucker, commissioned Acting Assistant Surgeons from July 10, 1902.

Surgeon A. C. H. Russell, detached from duty as member and recorder of the Board of Medical Examiners, Naval Laboratory, N. Y., August 25, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C., for duty as a member and recorder of the Board of Medical Examiners.

Surgeon E. R. Stitt, detached from the Hartford and ordered home and to wait orders.

Surgeon C. T. Hibbett, ordered to the Franklin August 1.

Passed Assistant Surgeon A. R. Alfred, detached from the Monadnock and ordered to the Solace.

Assistant Surgeon W. Seaman, detached from the Naval Hospital, Yokohama, Japan, and ordered to the Monadnock.

Assistant Surgeon W. E. Griffin, detached from the Naval Hospital, Yokohama, Japan, and ordered to duty at Olongapo, P. I.

July 24. Acting Assistant Surgeon J. H. Halloway ordered to the Naval Hospital, Boston, Mass.

Acting Assistant Surgeon M. W. Baker, ordered to the Naval Hospital, Norfolk, Va.

Week ending August 2nd.

July 24. Assistant Surgeon R. C. Holcomb, to duty at Naval Hospital New York.

July 26. Surgeon E. R. Stitt, re-

port to the Surgeon General, for duty at the Naval Museum of Hygiene and Medical School, Washington, D. C.

July 29. P. A. Surgeon C. D. Langhorne, from the Naval Hospital, Philadelphia, to duty at Naval Hospital, Port Royal, S. C.

P. A. Surgeon S. G. Evans, detached from Naval Hospital, Port Royal, S.

C., and ordered to Naval Hospital, Norfolk, Va.

August 1. P. A. Surgeon F. L. Pleadwell, detached from the Kearsarge and to temporary duty on the Sylph.

Week ending August 9th.

August 2. Doctor M. W. Baker, commissioned an Assistant Surgeon from July 23, 1902.

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